



United States Environmental Protection Agency EPA Region IX

Request for information CA OES Report # 05-3706
Petro Resources Crude Oil Spill Santa Clarita, CA.

Prepared exclusively for Petro Resources, Inc. by Patriot Environmental Services 2005

10.0 Discharge Date and Time

10.0 a.) Date and Time of discovered release

DATE: 06/21/2005 TIME: 1357	RECEIVED BY:	CONTROL#: OES - 05-3706 NRC -
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1.a. PERSON NOTIFYING GOVERNOR'S OES:

1. NAME: 2. AGENCY: 3. PHONE#: 4. Ext: 5. PAG/CELL:
Los Angeles Co. Fire
Dept.

1.b. PERSON REPORTING SPILL (If different from above):

1. NAME: 2. AGENCY: 3. PHONE#: 4. Ext: 5. PAG/CELL:

2. SUBSTANCE TYPE:

2. a. SUBSTANCE: b. QTY: >=< Amount Measure c. TYPE: d. OTHER:
1. Crude Oil = 1,000 Gal(s) PETROLEUM

e. g. WATER h. WATERWAY: i. DRINKING WATER
DESCRIPTION: INVOLVED: IMPACTED

Possibly released
due to a broken
pipe at a refinery.
The storm drains
in the area go to
the ocean.

f. CONTAINED:

Unknown Yes Storm Drain No

3. a. INCIDENT LOCATION: Dockweiler Dr. at Sierra Hwy.

b. CITY: c. COUNTY: d. ZIP:

Santa Clarita Los Angeles County 91321

4. INCIDENT DESCRIPTION:

a. DATE: 06/21/2005 b. TIME (Military): 1314 c. SITE: Refinery

d. INJURIES# e. FATALS #: f. EVACS #: g. CLEANUP BY:

0 0 0 Unknown

6. NOTIFICATION INFORMATION:

a. ON SCENE:	b. OTHER ON SCENE:	c. OTHER NOTIFIED:
Fire Dept.	Co Health HazMat	

d. ADMIN. AGENCY: L. A. County Fire
Prevention

e. SEC. AGENCY:

f. NOTIFICATION DOG Unit:

RWQCB Unit: 4

LIST:

AA/CUPA, DFG-OSPR, DTSC, RWQCB, US EPA, USFWS, COASTAL COM, LANDS, OES HAZMATUNIT, OES REG, PARKS & REC,
SFM, USCG

***** Control No: 05-3706 *****

Created by: Warning Center on: 06/21/2005 01:57:58 PM Last Modified by: Warning Center on:
06/21/2005 02:05:22 PM

10b.) Reporting Party

The OES spill report was reported by Los Angeles Fire Department Captain Gary Dellamalva. Station # 73. It is assumed a local resident discovered the spill and contacted the Fire Department.

10c.) Name, address, and contact information

Captain Gary Dellamalva LACFD Station #73
(661) 254-9661

10d.) Facility Representative

Mr. Joe Rose
Petro Resources, Inc.
4200 Easton Drive, Suite 16
Bakersfield, CA 93309
(661) 323-4118

10e.) Representative Contact Information

Mr. Joe Rose
Petro Resources, Inc.
4200 Easton Drive, Suite 16
Bakersfield, CA 93309
(661) 323-4118

8.0 Discharge Pathway

The following description is the pathway the oil and production water traveled.

8a.) Source (Zone 1)

The source of the spill occurred on a 2" single wall steel aboveground production water return line. The water is separated from the oil and injected back into the ground during normal oil recovery operations.

It is believed the release was initiated by a seismic event that along with abnormal heavy winter rainfall initiated a small landslide to occur. The existing 2" steel pipe sustained damage when the hillside gave way from underneath it causing the piping to be pulled out of its threads from a 90-degree elbow. It then began to leak production water. An inline valve to the tank was open and a siphoning affect was created causing oil and water from the tank to also be released.

The 2" steel pipe is located 100' north of tank T-201 outside of the tank farm secondary containment wall and berm. The pipe was located aboveground at the top of the existing slope.

8b.) Slopes (Zone 1)

There were (2)-two slopes affected by the release. The first slope which is the upper of the two is at a 1:1 and approximately 60 feet in length from the top to the toe. It is estimated that the oil\water path is 60 feet in length, 1.0 feet wide, and .6 inches in depth. Subsurface contamination ranged from .6 inches to 6.0 inches in depth.

The second slope is divided from the first by a 10-12 foot wide dirt access road. The second slope is also at a 1: 1 and approximately 45 feet in length. It is estimated that the oil\water path is 45 feet in length, 1.0 feet wide, and .6 inches in depth. Subsurface contamination ranged from .6 inches to 6.0 inches in depth.

8c.) Dry Creek Bed (Zone 1)

At the toe of the second slope there is a 4-5 foot vertical drop into the dry creek bed due to past erosion. The creek bed flows at an east \west direction towards the new housing development. The flow path winds around soil outcroppings, trees, and heavy brush. It is estimated that the oil\water path is 800 feet in length, 1.0 feet wide, and .6 inches in depth. The Fire Department installed a sand bag dam 30 feet east of the header wall in which oil was pooled (6-8 inches in depth) and contained. Subsurface contamination ranged from .6 inches to 18.0 inches in depth.

8d.) Storm Drain Intake Header Wall (Zone 1)

The storm drain inlet consisted of a concrete header wall and floor. The opening of the pipe has a heavy duty steel grate anchored directly into the concrete to keep heavy debris and people from entering the pipe. It is estimated that the oilwater path is 15 feet in length, 6.0 feet wide, and 6 inches in depth.

8e.) Storm Pipe (Zone 2)

The Storm pipe is of recent new construction and is estimated at 60" in diameter. The pipe is constructed of reinforced concrete (RCP) with (4)-four clean outs (man ways) and numerous 18" spring line laterals. It is estimated that the oilwater path is 2,000 feet in length, 6 inches in width, and .6 inches in depth.

8f.) Storm Drain Outfall (Zone 2)

The outfall of the storm drain deposits into a concrete catch basin. A sand bag and plastic sheeting underflow dam was installed to keep the oil from flowing out of the catch basin, but allowed the clean nuisance water to discharge into the creek bed. Existing 8 and 10 diameter PVC discharge piping was located at the north side of the outfall and was active with nuisance water discharge.

It is estimated to be 5.0 feet in depth, 20 feet wide, and 20 feet long with a 6 inch wide vertical opening for flow into the creek.

8g.) Active Creek Bed (Zone 3)

The active creek bed is located below the outfall extending approximately 800 feet to the east and out falling into Newhall Creek. Oil was stopped with a dirt berm installed by the Fire Department 30 to 40 feet before it could enter Newhall Creek. PES installed (3)-three plastic lined sand bag dams with underflow pipes as directed to prevent an overflow of nuisance water and oil from entering Newhall Creek. It is estimated that the oilwater path is 800 feet in length, 1.0 feet wide, and .6 inches in depth. Subsurface contamination ranged from .6 inches to 18.0 inches in depth.

8h.) Map with Route



- * Spill route indicated in yellow
- * Newhall creek indicated in blue

11.0 Discharge Determinations

a.) Discharge Timeline

It is estimated that the spill began during the week of 06/20/05. The site was visited by PRI personnel the week of 06/13/05 no spill or landslide was present at that time.

b.) Timeline Calculations

It is estimated by PRI that the pipe released approximately .5 gallons of oily water per minute. There are 1440 minutes in a 24 hour period and it is believed the spill occurred within a 24 hour period. It is estimated the release was 1,000-1,500 gallons.

4f.) Sampling Report
Page 1 of 8

REPORT

SITE SAMPLING

Project File: 151605.R

**Petro Resources
Spill - Emergency Response - Clean Up
Dockweiler Sierra Highway
Santa Clarita, California 91321**

Prepared For:

**Patriot Environmental, Inc.
20609 Placerita Canyon Road
Santa Clarita, California 91321
Attn: Dean Matsuoka**

Monday, March 22, 2004

4f.) Sampling Report
Page 2 of 8

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 BACKGROUND.....	1
1.2 SPILL FLOWPATH	1
1.3 SITE CHARACTERIZATION	1
1.4 MATERIAL CHARACTERIZATION.....	2
2.0 SAMPLING PLAN	2
2.2 SAMPLING PLANS	3
2.2.1 Zone 2 Sampling Plan.....	3
2.2.2 Zone 3 Sampling Plan.....	4
2.3 SAMPLING EVENTS.....	5
2.4 SAMPLE LOCATIONS MAPPING.....	5
3.0 CONCLUSION	6

LIST OF APPENDICES

Appendix A - Initial Material Characterization
Appendix B - Zone 2 Sampling Results
Appendix C - Zone 3 Sampling Results
Appendix D - Zone 1 Sampling Results
Appendix E - Zone 1 Resample Results

4f.) Sampling Report
Page 3 of 8

1.0 INTRODUCTION

1.1 Background

On Wednesday, June 22, 2005 a spill site was visited near Dockwieler Drive and Placerita Canyon to begin formulation of sampling plan to satisfy USPEA Emergency Response Section, Region 9 requirements.

The material underwent an initial characterization. The data from that characterization, site observations and regulatory discussions resulted in the development of sampling plans for the areas affected by the release.

1.2 Spill Flow path

The spill emanated from a hillside crude oil storage facility in the area of Dockwieler Drive and Placerita Canyon. The release time is placed on or about June 21, 2005. The material flowed down a hill, into a natural, vegetated drainage swale, through a subterranean concrete storm water culvert and was stopped upon discovery approximately 50 feet short of entry to the Santa Clara River. Conditions were dry and the release product advanced from the point of release under its own mobility.

The flow path was further categorized by this office into three segments with all distances field approximated by eye as follows:

- **Zone 1**

Hillside from point of release to concrete culvert, 1:1 slope for 80 feet, vertical elevation difference of 40 feet, flow path 24" to 36" then a natural swale through heavy vegetation to concrete culvert, 3% slope for 400 feet, vertical difference elevation of 12 feet. Flow path 24" – 60" wide. Pondered product noted at berming 15 feet prior to head of culvert. Berming said to be placed by local fire authorities.

- **Zone 2**

Concrete culvert to Santa Clara River tributary, 3% slope for 1800 feet, vertical elevation difference of 50 feet. Flowpath 24" -30' wide at ingress and egress points.

- **Zone 3**

River tributary to point of berming, 125 foot stream meander, 1 foot elevation difference.

Total surface run was estimated at 2400 feet over an elevation difference of 100 feet. Dimensions were not verified but believed accurate for purposes of initial characterization.

1.3 Site Characterization

The flowpath is through both steep, undeveloped hillside and flatter, natural swale terrain and a concrete drainage culvert underneath a residentially developed area.

4f.) Sampling Report

Page 4 of 8

The undeveloped terrain is a combination of loosely consolidated, sand and gravel material with some heavy vegetation. Passage through the developed area is through a constructed subterranean culvert that is in excellent repair and appears competent for the sections studies.

1.4 Material Characterization

The spill material was observed to be a heavy, black, viscous material that was stated by one of the

owner's representatives to be crude oil of an API gravity of 11.5°. The material was able to flow slowly from the point of release and had a molasses like consistency.

Conventional crude oil is oil that flows naturally or that can be pumped without being heated or diluted. Crude oil is commonly classified as light, medium or heavy, referring to its gravity as measured on the American Petroleum Institute (API) Scale.

The API gravity is measured in degrees and is calculated using the formula $(141.5/S.G.) - 131.5 = \text{API Gravity}$. Light crude oil is defined as having an API gravity higher than 31.1°, medium oil as having an API gravity between 22.3° and 31.1°, and heavy oil as having an API gravity below 22.3°.

Conventional heavy oil has an API gravity ranging from 9° to 18°. Oil that does not flow, or cannot be pumped without being heated or diluted is called bitumen, and generally has an API gravity of less than 10°.

Based on observations and definition this material fits the API classification of an unrefined heavy crude oil.

Two samples were taken of the material and analyzed for TPH as Crude Oil (utilizing a silica gel clean up), PAH by EPA SW 846 method 8270, and BTEZ by EPA SW 846 method 8021. The samples were identified as "upper" and "lower".

The results indicate that the material is crude oil with no high concentrations of other components. The results appear in Appendix A – Material Characterization.

2.0 SAMPLING PLAN

2.1 Background

During the June 22, 2005 site visit USEPA Region 9 On-Scene Coordinator Robert Wise stated that the sampling plan criteria was under consideration by his office at this time. Communications after that date determined that a very straightforward sampling plan that was essentially random verification would be

4f.) Sampling Report
Page 5 of 8

sufficient due to the character of the material released.

In the course of the sampling it was agreed with the USEPA representative that if Zones 1, 2, and 3 were effectively cleaned to Non Detect then the background sampling would be considered unnecessary.

2.2 Sampling Plans

The sampling plans were developed to determine the effectiveness of the clean up in the areas known as Zones 1, 2, 3 and what was determined to be the background areas. The sampling plans were accepted as follows:

2.2.1 Zone 2 Sampling Plan

This sampling plan is presented as a means of performing a rapid measurement of the effectiveness of mitigation efforts for a crude oil release for the underground culvert area of the subject release.

This area has been referred to as the "Zone 2" area and consists of a length of underground concrete drainage culvert that conveyed the released product between the release area (Zone 1) and the final capture area (Zone 3).

Purpose

Determine the levels of hydrocarbon in water in the Zone 2 culvert outflow and compare to background levels in the adjoining Newhall Creek in near Zone 3.

Scope

Procure one water sample from Newhall Creek 50 yards up gradient of the Zone 3 exit point. Procure one sample at the Zone 2 exit point. Prepare one field blank from appropriate source.
(Recommend one unopened bottle of drinking water to be used as blank material)

Sample Methodology

Samples will be taken in 500ml amber laboratory supplied glassware. Samples will be procured by qualified personnel by the following method:

- Personal to wear proper protective gear.
- Each sample to be taken in duplicate.
- Sample vessel to be submerged in water to fill completely. Tap vessel lightly to loosen and remove bubbles. Headspace is not allowed, head space to be checked by inverting sealed container. If headspace is evident empty and repeat process.
- Containers to be labeled "Newhall Creek", "Field Blank" and "Zone 2 effluent".
- Chain of Custody, applicable handling and labeling in accordance with EPA SW846 procedures for sample procurement.

4f.) Sampling Report Page 6 of 8

- Samples to be placed in cooler to maintain 4⁰ Centigrade temperature for transport to laboratory.

2.2.2 Zone 3 Sampling Plan

Procure soil samples from the areas defined as follows:

1. Zone 1 Background area – Area surrounding point of Zone 1 spill emanation to include a surface area of five acres. Area will be defined by following elevation contour line from spill area to the east, north and west to include a conical shaped water shed area of approximately five acres.
2. Zone 1 spill contact area – The actual spill contact area.
3. Zone 3 spill contact area – The actual spill contact area.

Sample Locations

- Zone 1 Background area – A total of 8 discrete samples will be taken at approximately 3” below existing grade. The samples will be spread evenly over the defined sample area.
- Zone 1 spill contact area – Approximately 7 samples will be taken in the spill contact area. Samples will be taken from the point of emanation to the entrance to the concrete culvert. Samples will be taken at 80 – 100 foot intervals as terrain allows. Samples will be taken at a depth of 8” to 12” below existing grade.
- Zone 3 spill contact area - Approximately 5 samples will be taken in the spill contact area. Samples will be taken from the point of exit from the concrete culvert. Samples will be taken at 80 – 100 foot intervals as terrain allows. Samples will be taken at a depth of 8” to 12” below existing grade.

Sample Methodology

Samples will be taken in minimum size 4 oz. Teflon lidded laboratory supplied glass jar. Samples will be procured by qualified personnel by the following method:

- Personal to wear proper protective gear.
- Each sample to be taken in duplicate for the purpose of redundancy or split sampling by oversight agency.
- Sample vessel to be filled completely and sealed tightly.
- Samples will be taken by exposing the subsurface to a depth of 8” -12” by use of a clean shovel, backhoe bucket or other suitable method. Sample jar shall be filled directly from the exposed surface in the sample hole, not from material removed by excavation methods.

Labeling and Site Sample Location Identification

Each sample location will be clearly recorded in field book and “flagged” for future identification with

4f.) Sampling Report Page 7 of 8

the following nomenclature:

- Zone 1 background: Z1B-1,2,3,4,5,6,7,8 as applicable
- Zone 1 Contact Area: Z1CA-1,2,3,4,5,6,7 as applicable
- Zone 3 Contact Area: Z3CA-1, 2, 3,4,5,6 as applicable.

The flags will be labeled to match the container identification and stuck into the sample point as to be relocated easily to provide rapid sample point location in the field.

Analysis and Detection Limits

Analysis is to be performed by (m)8015 for total extractable hydrocarbons on a same day basis. Reporting to be in either mg/kg or ug/kg depending on magnitude of outcome and clearly noted by the lab. Detection Limits are to be at 10 ppm for the analysis.

Special Notes

1. Advise laboratory of source material (API 11.5⁰ crude oil) and that results are expected include C₃₀ – C₅₀ range hydrocarbons.

2.3 Sampling Events

The plans were executed in the following order based on the mitigation efforts in each area:

Zone Sampling	
Zone	Date
2	6/29/05
3	6/30/05
1	7/05/05
1 (resample)	7/07/05

Zone 1 required additional sampling in several areas due to non-detect status not being achieved with the initial clean up efforts.

2.4 Sample Locations Mapping

The sample locations in Zone 3 and 1 were mapped by use of GPS and are shown as follows:

4f.) Sampling Report
Page 8 of 8

Zone 3

Sample ID	N – Coordinate	W – Coordinate	Z – Coordinate
Z3CA-1	34°22.182	118°30.570	1359 ft
Z3CA-2	34°22.186	118°30.579	1359 ft
Z3CA-3	34°22.180	118°30.582	1359 ft
Z3CA-4	34°22.193	118°30.597	1359 ft
Z3CA-5	34°22.198	118°30.603	1359 ft

Zone 1

Sample ID	N – Coordinate	W – Coordinate	Z – Coordinate
Z1CA-1	34°22.279	118°30.219	1424 ft
Z1CA-2	34°22.282	118°30.200	1427 ft
Z1CA-3	34°22.286	118°30.188	1444 ft
Z1CA-3-2	34°22.286	118°30.188	1444 ft
Z1CA-4	34°22.283	118°30.172	1452 ft
Z1CA-4-2	34°22.283	118°30.172	1452 ft
Z1CA-5	34°22.285	118°30.154	1460 ft
Z1CA-6	34°22.286	118°30.142	1463 ft
Z1CA-7	34°22.278	118°30.135	1484 ft

Note: The -2 (dash two) designation indicates that an area was resampled at the same location due to unsatisfactory results on the first sample event. Zone 2 was sampled inside a drainage culvert and GPS was not possible, however the Zone 2 was water sample only.

3.0 CONCLUSION

This concludes the sample development and results report for the subject site. Should you have any further questions or comments regarding this transmittal please call the undersigned during normal business hours.

Sincerely,

Matthew James Walker
California Civil Engineer 37369